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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,699	06/04/2001	Yoshinobu Suehiro	P 280301 PTGF-01074	9088

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EXAMINER

TON, ANABEL

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 03/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/871,699

Applicant(s)

SUEHIRO ET AL.

Examiner

Anabel M Ton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 04 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-25 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant claims that a first light-emitting element is configured to emit light at a predetermined heat amount and a second light-emitting element is configured to emit light at a lower heat amount. It is not understood (and not explained in the specification) how, if a LED device which inherently distributes voltage at an equal amount to each LED, one LED would have a different heat amount than the other. If applicant is intends to mean color temperature, please correct accordingly.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Abe (5,177,593)

6. Abe discloses a light emitting device comprising: an insulating base having a plurality of electrical leads including positive and negative leads provided on top and bottom surfaces thereof; an LED chip array arranged on one of said negative leads on said top surface of said insulating base, said LED chip array being electrically connected to said positive and negative leads on said top surface of said insulating base; a first metal connection configured to connect said positive leads on said top and bottom surfaces of said insulating base; and a second metal connection configured to connect said negative leads on said top and bottom surfaces of said insulating base (fig 9).

A light emitting device comprising: an insulating base having an upper surface and a lower surface; a metal layer provided on the upper surface and the lower surface of the insulating base; a plurality of light emitting elements arranged on the metal layer provided on the upper surface of the insulating base; and a metal connection that connects the metal layers to each other at a position where at least one of the plurality of light emitting elements is disposed (fig 9).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3,5-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe.

9. Abe discloses the recited invention except for the chips comprising blue, green and red LED chips having a particular order in a predetermined direction. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have blue, green and red LED chips arranged in a light emitting device in a predetermined direction since a prearranged array of blue, green and red LED chips are well known in the art in display devices to produce white light. With regards to the light emitting device comprising a plurality of red, blue and green LED chips, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a plurality of blue, green and red LED chips, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

2. The light emitting device according to claim 1, wherein: said LED chip array comprises blue, green and red LED chips, the positive leads include blue, green and

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red positive leads arranged at one side of LED chip array, the negative leads include a first common lead arranged at another side of said LED chip array and a second common lead arranged at said one side of said LED chip array, said blue LED chip being connected to said blue positive lead and said second common lead by bonding wires, said green LED chip being connected to said green positive lead and said first common lead by bonding wires, and said red LED chip being connected to said red positive lead by a bonding wire and to said first common lead by a direct contact with a bottom electrode thereto.

- With regards to the metal connection being a through-hole plating, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use through hole plating as a metal connection since such a practice is old and well known in the art for the purpose of providing a heat emitting electrical connection for the LED. (Please see cited reference Ishinaga et al for teaching)
- The substrate comprises a reflection case having an opening provided on a side thereof on which the plurality of light emitting elements are arranged and a seal member comprising a light transparent material configured to fill the opening in the reflection case to seal the plurality of light emitting elements in the reflection case, said opening configured to surround the plurality of light emitting elements and extending toward the side where the plurality of bonding wires are provided (abstract);
- The substrate comprises a reflection case having an opening provided on its side where the plurality of light emitting elements are arranged, so as to surround the

plurality of light emitting elements and be positioned toward the plurality of bonding wires; and a seal member comprising a light transparent material filled into the opening in the reflection case which seals the plurality of light emitting elements (abstract);

- With regards to claims 13 and 14, the method of forming the device is not germane to the issue of patentability of the device itself. Therefore, these limitations have not been given patentable weight.
- With regards to a plurality of separate leads connected respectively to the plurality of LED chips and a common lead connected to the plurality of LED chips by a common connection, the common lead being loaded with the plurality of LED chips and configured to absorb heat generated from the plurality of LED chips, such a configuration and method of connecting is old and well known in the art (please see cited prior art Ishinaga et al)

10. Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe as applied to claim 21 above, and further in view of Ishinaga et al (6,093,940).

11. Abe discloses the light-emitting device as recited above. Ishinaga discloses a common lead having an elongated region having predetermined width and length sufficient to be loaded with the plurality of LED chips, the plurality of LED chips comprise a first plurality of LED chips having positive and negative electrodes on a light emitting face thereof and a second plurality of LED chips having positive and negative electrodes on a light emitting face and a substrate side thereof, and the first and second pluralities of LED chips are alternately loaded into the elongated region of the common



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lead. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the LED device of Abe with the LED device of Ishinaga et al since as taught by Ishinaga the improvements of the connections and materials used in the LED chip display are useful for the purpose of providing a more suitable connection array for LED chip displays

- Ishinaga discloses the link lead comprises a plurality of through-hole plating configured to connect the common lead to the power supply connection lead at a position adjacent to and below the plurality of first LED chips; the link lead comprises a plurality of through-hole plating configured to connect the plurality of separate leads to the power supply connection lead; the power supply connection lead comprises a common lead, which is connected to either a power supply or a ground and a plurality of separate leads connected to the other of the ground or the power supply.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anabel M Ton whose telephone number is (703) 305-1084. The examiner can normally be reached on 08:00-16:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Anabel M Ton  
Examiner  
Art Unit 2875

AMT  
February 24, 2003

A handwritten signature in black ink, appearing to read "Anabel M. Ton", is located in the lower right quadrant of the page.